1857MNRAS..17...71M

"After emersion there was a decided stereoscopic effect, seen both by Mr. Gillett (who, up to this time had left the telescope entirely to me,) and myself, *Jupiter* in the binocular appearing as at a distance behind the moon. Mr. Gillett tells me that with terrestrial objects the effect of the binocular, if inverting eye-glasses are used, is in many instances pseudoscopic, the more distant objects appearing nearer than the more proximate, which is the effect that theory would indicate.

"The satellite, last in order on emersion, seemed to cling for a second or so to the moon's edge, probably an effect due to irradiation. I did not observe this with the three others, but I did not catch the moments of emersion so well with them. I was greatly struck by the beautiful impression conveyed to the mind by the binocular telescope, and judging from what I had seen with a monocular telescope of my own, of 4·3 inches aperture, and therefore not far differing in area from the compound area of the two object-glasses in the binocular, the latter was decidedly superior, and the ease and, if I may be allowed the expression, the *naturalness* of the vision, was very remarkable."

Note on the Occultation of Jupiter on the 2d January, 1857.

By Mr. John Watson, Washington Chemical Works, Durham.

"The evening of the 2d instant being remarkably clear, I resolved to watch the appearance of *Jupiter* in a *star-gazing fashion* only during the occultation, leaving the time-observations to other and better-equipped observatories. To secure the utmost degree of stability, I placed the telescope, a 9-ft. Newtonian of 8-inches aperture, power 100, with its lower end on the ground, supporting the upper end of the tube with a Smeaton's stand.

"The satellites disappeared at the slightly illuminated edge of the moon, without anything unusual being noticed. From the moment of first contact *Jupiter* disappeared smoothly and gradually, and without the least perceptible distortion. The couple of minutes which elapsed between first contact and total disappearance afforded abundance of time to notice the well-defined, curved outline of the moon as projected on the disk of *Jupiter*, and also to observe that the belts of the planet could easily be traced *unaltered* up to the moon's dark limb.

"The two preceding satellites served admirably as *pointers* to indicate the place of emersion at the bright side of the moon. As *Jupiter* emerged from behind the moon, the belts were again noticed *unaltered;* nor was the least distortion observed on the edges of either the moon or planet. No dark line of separation could be seen; but the greenish tint, noticed by Mr. De la Rue in November, was very perceptible on the face of *Jupiter*.

"I should not have considered it necessary to lay before the Society a paper containing so many negative results had not some other published observations been so widely different."

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1857MNRAS..17...71M

Mr. Slatter, of Rose Hill, Oxford, writes:—"The time and sky on the 2d were so favourable that I dare say you will be inundated with notices. I venture to add mine." The planet emerged "with no distortion of image. The moon's limb was very wavering; the planet's perfectly defined and steady: its colour had a slight inclination to green; I conclude by contrast."

"The first satellite emerged also in all respects as it had entered; but the second satellite remained hanging to the moon's limb for four seconds: during the first second, I thought it must be an inequality on the moon's limb; but its greater paleness showed it to be the satellite: when it let go the moon's limb, it started away spasmodically a considerable space.

"I have hitherto been rather sceptical about such appearances, attributing them to the want of power in the instrument, or the fatigued vision of the observer; but what I saw I feel sure was the effect of our own atmosphere, and no lunar appendage.

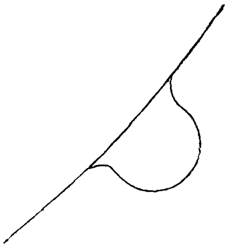
"It is worthy of remark that the flickerings were entirely interrupted at that part of the Moon's limb, at which the planet was emerging. I remember noticing the same thing very particularly in the case of the sun's limb on the occasion of the transit of *Mercury* in 1848.

"I make the following extract from my book, Nov. 9, of that year: 'Very difficult to say when *Mercury* was fully in, as the sun's limb was very wavy: certainly no black thread formed. The power used was 117, the lowest of the micrometer being too high for the day. Air loaded with vapour. It is to be noted that the first appulse was easily visible, because it *stopped* the apparent waves on the sun's limb.'"

Occultation of Jupiter. By W. Simms, Esq.

"The occultation of the planet *Jupiter* by the moon on the 2d inst. was seen by me at Carshalton: the immersion with an achromatic object-glass of 15 inches, and the emersion with one of 13 inches aperture, and a power of 200 in both cases.

"The moon's limb advanced steadily over the planet till the latter was about half occulted, when I observed that at the extremities of the line of contact the planet appeared as represented in the accompanying figure, and this appearance continued till only a very small part of the planet remained visible. It is true that there was, at the time, much unsteadiness of atmosphere, but I watched the phenomenon very attentively, and believe I was not mistaken.



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